

INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP2004/052363

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C08L23/10 C08L51/06 C08L23/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C08L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 886 227 A (VANBREDERODE ET AL.) 27 May 1975 (1975-05-27) the whole document	22-25
X	US 2002/107329 A1 (DING ET AL.) 8 August 2002 (2002-08-08) the whole document	22-25
A	GB 1 335 791 A (MITSUI PETROCHEMICAL IND. LTD) 31 October 1973 (1973-10-31) cited in the application the whole document	22-25

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *A* document member of the same patent family

Date of the actual completion of the international search

16 February 2005

Date of mailing of the international search report

24/02/2005

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Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3886227	A	27-05-1975	BE 808127 A1	04-06-1974
			DE 2359719 A1	06-06-1974
			FR 2208924 A1	28-06-1974
			JP 1225701 C	31-08-1984
			JP 58059246 A	08-04-1983
			JP 59000529 B	07-01-1984
			JP 50001140 A	08-01-1975
			JP 59003489 B	24-01-1984
			US 3966845 A	29-06-1976
US 2002107329	A1	08-08-2002	US 6403721 B1	11-06-2002
			AU 2002253983 A1	04-09-2003
			CA 2475350 A1	21-08-2003
			EP 1474476 A1	10-11-2004
			WO 03068858 A1	21-08-2003
			US 2003204019 A1	30-10-2003
			US 2003207984 A1	06-11-2003
			AU 7173801 A	15-04-2002
			WO 0228957 A1	11-04-2002
GB 1335791	A	31-10-1973	JP 54039433 B	28-11-1979
			DE 2215817 A1	26-10-1972
			FR 2132395 A5	17-11-1972
			IT 953597 B	10-08-1973

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: **1-21 , 22-25 parf of, 26**
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

See supplemental Sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

Box II.2

Claims 1-21, 22-25 in part, 26

No search has been carried out with respect to claims 1 to 21 and 22 to 25 in part and 26 for the following reasons:

1. The current claims 1 to 21 and 22 to 25 in part and 26 concern the use of a polymer composition defined by reference to a desirable feature or property, namely the improvement of at least one mechanical property of said composition.

The expression "improve the mechanical properties" is vague and does not indicate how the property should be improved. In certain cases, the value of the mechanical property may increase or decrease whilst still representing an improvement for the current application. Consequently, the term "improve" in claims 1 to 21, 22 to 25 in part and 26 is vague and ambiguous and refers to a property "modification".

2. The current claims 1 to 21 and 22 to 25 in part and 26 concern the use of a polymer composition defined by means of the following parameters: mechanical behaviour at high and low speed, modulus of elasticity, break elongation, operating temperature range, softening temperature, resiliency during falling weight tests and mechanical behaviour over a period of time. The use of these parameters is considered in the present context to result in a lack of clarity (PCT Article 6).

For example, since the claims do not mention any standard method concerning mechanical behaviour over a period of time or mechanical behaviour at high and low speed, it is not clear for which specific property protection is sought. It is therefore impossible to compare the parameters which the applicant chose to use with those indicated in the prior art. The resultant lack of clarity is such that it is not possible to carry out a full meaningful search.

3. Furthermore, claims 1 to 21 and 22 to 25 in part and 26 are not supported by the description, as required under PCT Article 6, since the scope of the claims goes beyond that justified by the description and the drawings. The reasons are as follows: The examples (pages 12 to 19) describe merely polymer compositions comprising propylene-based polymers and the applicant also asserts in the description that the improvement in the mechanical properties is obtained as a result of careful selection of unmodified polypropylene and grafted polypropylene (see page 2, lines 18 to 30).

This inconsistency between the claims and the description leads to doubts as to the subject matter for which protection is sought, and therefore the claims are unclear (PCT Article 6).

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In the present case the claims lack support and the application lacks disclosure to such an extent that it does not appear possible to carry out a meaningful search covering the entire range of protection sought.

4. Regardless of the above, the claims also lack clarity. The claims attempt to define the subject matter in terms of the result which is to be achieved, but in so doing merely state the problem to be solved, without specifying the technical features necessary for achieving that result.

In addition, the definitions of the unmodified polyolefins are not clear, since the expression "unmodified" does not exclude grafting on the same polyolefin. Consequently, the two components (unmodified polyolefin and grafted polyolefin) could be the same polymer according to definitions in the current claims.

The same could be applied to claims relating to the preparation method (claims 22 to 25), which indicate the main problem to be solved by the invention without specifying the technical features necessary for achieving that result. Consequently, the only part of claims 22 to 25 that is clear with respect to the examples in the description and which has thus been searched is that relating to the addition of the polyolefins for preparing the compositions according to the examples, i.e. the part claiming a "method for preparing a polyolefin composition, said method involving the addition of the polyolefin P2 or P1 to the pre-existing composition (C1 or C2)".

5. In its initial stages, the search yielded a very large number of documents prejudicial to novelty. This number is so large that it becomes impossible to identify anything in the claims as a whole for which protection might justifiably be sought (PCT Article 6).

6. Once again this lack of clarity is such that in the present case it does not appear possible to carry out a meaningful search covering the full range of the claims.

The search was therefore directed to the parts of the claims and of the description, the subject matter of which appears to be clear, supported and adequately disclosed, namely the parts relating to claims 22 to 25 in part referring to the examples (pages 12 to 19) and the properties (page 8, where improvement clearly means an increase).

The applicant is advised that claims or parts of claims relating to inventions in respect of which no international search report has been established cannot normally be the subject of an international preliminary examination (PCT Rule 66.1(e)). In its capacity as International Preliminary Examining Authority the EPO generally will not carry out a preliminary examination for subjects that have not been searched. This also applies to cases where the claims were amended after receipt of the international search report (PCT Article 19) or where the applicant submits new claims in the course of the procedure under PCT Chapter II. After entry into the regional phase before the EPO, however, an additional search can be carried out in the course of the examination (cf. EPO Guidelines, C-VI, 8.5) if the defects that led to the declaration under PCT Article 17(2) have been remedied.